

COMPLETE LISTING OF CLAIMS

- 1.-5. (CANCELLED)
6. (PREVIOUSLY PRESENTED) A recombinant plasmid pBUN276 on deposit with the American Type Culture Collection as accession number PTA-8190.
- 7.-10. (CANCELLED)
11. (PREVIOUSLY PRESENTED) A transformed microorganism comprising the plasmid of claim 6.
12. (CURRENTLY AMENDED) The transformed microorganism of claim 11, wherein the microorganism is a naturally occurring or genetically modified mycobacterium strain selected from the group consisting of *M. smegmatis*, *M. tuberculosis*, *M. bovis*, *M. africanum*, *M. microti*, *M. leprae*, *M. avium*, *M. intracellular*, *M. paratuberculosis*, *M. ulcerans*, *M. marinum*, and any subspecies of said mycobacterium strains ~~or genetic mycobacterium variants thereof~~.
- 13.-23. (CANCELLED)
24. (PREVIOUSLY PRESENTED) The transformed microorganism of claim 11, wherein the transformed microorganism is recombinant mycobacterium strain GPM265.
25. (CURRENTLY AMENDED) A recombinant plasmid, comprising at least one genomic DNA fragment encoding *M. tuberculosis* Ddl, said at least one DNA fragment fused in frame with the first six codons of *M. bovis* BCG hsp60; gene, and operably linked to the promoter of the said *M. bovis* BCG hsp60 gene promoter, wherein said at least one DNA fragment is cloned into an *E. coli* – mycobacterium shuttle vector pMV262.

26. (CURRENTLY AMENDED) A method for producing a recombinant microorganism comprising: transforming a mycobacterium with the plasmid of claim 6; 6, and selecting, in the presence of kanamycin, the recombinant microorganism.

27. (PREVIOUSLY PRESENTED) The method of claim 26, wherein the mycobacterium is transformed by electroporation.

28. (CURRENTLY AMENDED) A method of producing a microorganism with an altered level of D-alanine ligase expression relative to the corresponding non-transformed ~~nontransformed~~ microorganism, comprising transforming the microorganism with the plasmid of claim 6.

29. (NEW) A method of screening for agents which inhibit D-alanine ligase enzyme activity, comprising:

- a) exposing a culture of the recombinant mycobacterium strain of claim 24 to an agent to be tested to form a test culture; and
 - b) comparing D-alanine ligase enzyme activity of the test culture with the D-alanine ligase activity of a control culture of the recombinant mycobacterium strain of claim 24 in the absence of the agent,
- wherein less D-alanine ligase enzyme activity in the test culture than in the control culture is indicative of inhibition D-alanine ligase enzyme activity by the agent.

30. (NEW) The method of claim 29, wherein the agent is an antimicrobial agent.